

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 8 (canceled)

9. (previously presented) A system for providing peritoneal dialysis to a patient, the system comprising:

- a catheter having an inflow lumen and an outflow lumen in communication with the patient's peritoneal cavity;
- a fluid circuit in fluid communication with the catheter thereby defining a closed fluid path capable of circulating a therapy fluid into, through and out of the peritoneal cavity;
- a first supply of the therapy fluid including a dialysate coupled to the fluid circuit;
- a cyclor that pumps the dialysate into the fluid circuit and circulates the dialysate along the closed fluid path during a treatment period to remove a therapeutically effective amount of solutes and ultrafiltrate from the patient;
- a second supply of the therapy fluid including an osmotic agent solution coupled to the fluid circuit wherein the cyclor can pump the second supply of fluid into the fluid circuit during the treatment period;
- a cleaning device coupled to the fluid circuit wherein the cleaning device is capable of removing solutes including at least a portion of urea from the therapy fluid as it circulates along the closed fluid path;
- a reservoir coupled fluidly to the cyclor and branching off of the closed loop such that the cyclor can move fluid at a controlled flowrate to the reservoir, and wherein the reservoir is adapted to provide a variable increase in volume capacity to the fluid circuit allowing the system to compensate for an increase in fluid volume in the fluid circuit during treatment; and

a discharge path coupled to the fluid circuit allowing the fluid circuit to be drained of fluid after the treatment period.

10. (original) The system of Claim 9 wherein the treatment period comprises about eight hours or less.
11. (original) The system of Claim 9 wherein the first supply contains about 6 liters or less of dialysate.
12. (original) The system of Claim 9 wherein the second supply contains about 3 liters or less of the osmotic agent solution.
13. (original) The system of Claim 12 wherein the osmotic agent solution is selected from the group consisting of a 2.5% dextrose-based solution, a 3.5% dextrose-based solution, a 4.25% dextrose-based solution, a greater than 4.25% dextrose-based solution and combinations thereof.
14. (original) The system of Claim 9 wherein the osmotic agent solution contains about 4.25% or more of dextrose and one or more electrolytes at a concentration higher than existing levels in the fluid circulating through the fluid circuit.
15. (original) The system of Claim 14 wherein the second supply contains about 1 liter or less of the osmotic agent solution.
16. (original) The system of Claim 9 wherein the cleaning device is capable of non-selectively removing solutes from the therapy fluid.
17. (original) The system of Claim 16 wherein the cleaning device includes a sorbent material selected from the group consisting of carbon, activated charcoal, and combinations thereof in addition to a material capable of selectively removing at least a portion of the urea from the dialysate.

Claims 18 to 31 (canceled)

32. (previously presented) A method of providing peritoneal dialysis to a patient, the method comprising the steps of:

coupling a fluid circuit in fluid communication with a catheter in a peritoneal cavity of the patient thereby defining a closed fluid path along which a fluid is capable of being circulated to remove solutes and ultrafiltrate from the patient;

supplying a source of the fluid including a dialysate to the fluid circuit;

circulating the dialysate along the closed fluid path;

branching a container off of the closed fluid path and communicating the container fluidly with a circulator of the dialysate so as to be able to increase a volume capacity of the fluid circuit at a controlled flowrate to compensate for an increase in fluid volume in the fluid circuit;

removing an amount of solutes from the fluid as the fluid circulates along the closed fluid path; and

draining the fluid circuit of fluid after treatment.

33. (previously presented) The method of Claim 32 further comprising treating the patient for a period of about eight hours or less.

34. (previously presented) The method of Claim 32 wherein about 6 liters or less of dialysate is supplied during treatment.

35. (previously presented) The method of Claim 32 wherein about 1.5 liters or less of ultrafiltrate is added to the fluid circuit during treatment.

36. (previously presented) The method of Claim 32 wherein a sorbent material including carbon is employed to non-selectively remove the solutes from the dialysate.

37. (original) The method of Claim 32 wherein at least a portion of urea is selectively removed from the dialysate.
38. (previously presented) A method of providing peritoneal dialysis to a patient, the method comprising the steps of:
- coupling a fluid circuit in fluid communication to a catheter in a peritoneal cavity of the patient thereby defining a closed fluid path along which a therapy fluid is capable of being circulated to remove solutes and ultrafiltrate from the patient;
 - supplying a first source of a therapy fluid including a dialysate to the fluid circuit;
 - supplying a second source of the therapy fluid including an osmotic agent solution to the fluid circuit;
 - circulating the therapy fluid along the closed fluid path;
 - branching a container off of the closed fluid path and communicating the container fluidly with a circulator of the therapy fluid so as to be able to increase a volume capacity of the fluid circuit at a controlled flowrate to compensate for an increase in fluid volume due to the ultrafiltrate and the osmotic agent solution;
 - removing an amount of solutes including a therapeutically effective portion of urea from the therapy fluid as the therapy fluid circulates; and
 - draining the fluid circuit of fluid after treatment.
39. (previously presented) The method of Claim 38 further comprising treating the patient for a period of about eight hours or less.
40. (previously presented) The method of Claim 38 wherein about 6 liters or less of the dialysate is added to the fluid circuit during treatment.
41. (previously presented) The method of Claim 38 wherein about 1.5 liters or less of ultrafiltrate is added to the fluid circuit during treatment.

42. (previously presented) The method of Claim 38 wherein about 3 liters or less of the osmotic agent solution is added to the fluid circuit during treatment in which the osmotic agent solution is selected from the group consisting of a 2.5% dextrose-based solution, a 3.5% dextrose-based solution, a 4.25% dextrose-based solution, a greater than 4.25% dextrose-based solution and combinations thereof.

43. (original) The method of Claim 38 wherein about 1 liter or less of the osmotic agent solution is added to the fluid circuit during treatment in which the osmotic agent solution contains about 4.25% or more of dextrose.

44. (previously presented) The method of Claim 38 wherein a sorbent material including carbon is employed to non-selectively remove solutes from the therapy fluid in addition to a material capable of selectively removing at least a portion of urea from the therapy fluid.

45. (previously presented) A method of providing peritoneal dialysis to a patient, the method comprising the steps of:

coupling a fluid circuit in fluid communication to a catheter in a peritoneal cavity of the patient thereby defining a closed fluid path along which a therapy fluid is capable of being circulated to remove solutes and ultrafiltrate from the patient;

supplying a first source of therapy fluid including a dialysate to the fluid circuit;

supplying a second source of the therapy fluid including an osmotic agent solution to the fluid circuit;

circulating the dialysate and the osmotic agent solution along the closed fluid path;

removing a therapeutically effective amount of solutes and ultrafiltrate from the therapy fluid including a therapeutically effective portion of urea;
and

draining the fluid circuit of fluid at a controlled and effective rate to
compensate for an increase in fluid volume due to the second supply of
the therapy fluid and the ultrafiltrate.

46. (previously presented) The method of Claim 45 further comprising treating the patient in about eight hours or less.

47. (previously presented) The method of Claim 45 wherein about 6 liters or less of the dialysate is added to the fluid circuit during treatment.

48. (previously presented) The method of Claim 45 wherein about 1.5 liters or less of ultrafiltrate is added to the fluid circuit during treatment.

49. (previously presented) The method of Claim 45 wherein about 6 liters or less of the osmotic agent solution is added to the fluid circuit during treatment.

50. (original) The method of Claim 45 wherein the osmotic agent solution is selected from the group consisting of a 2.5% dextrose-based solution, a 3.5% dextrose-based solution, a 4.25% dextrose-based solution, a greater than 4.25% dextrose-based solution and combinations thereof.

51. (previously presented) The method of Claim 45 wherein the osmotic agent solution contains about 4.25% or more of dextrose and a concentration of one or more electrolytes elevated above a level of electrolytes in the therapy fluid.

52. (original) The method of Claim 47 wherein about 1 liter or less of the osmotic agent solution is added to the fluid circuit during treatment.

53. (previously presented) The method of Claim 45 wherein a sorbent material including carbon is employed to non-selectively remove solutes in addition to a

material which is capable of selectively removing at least a portion of the urea from the therapy fluid as the therapy fluid circulates along the closed fluid path.

54. (previously presented) The system of Claim 45 wherein a material is employed to selectively remove at least a portion of phosphates from the therapy fluid.

55. (previously presented) A method of reducing an amount of dialysate used during dialysis therapy, the method comprising the steps of:

coupling a fluid circuit in fluid communication to a catheter in a peritoneal cavity of the patient thereby defining a closed fluid path along which a fluid is capable of being circulated to remove solutes and ultrafiltrate from the patient;

supplying a source of the fluid including a dialysate in an amount of about 6 liters or less to the fluid circuit;

circulating the dialysate along the closed fluid path;

branching a container off of the closed fluid path and communicating the container fluidly with a circulator of the dialysate so as to be able to increase a volume capacity of the fluid circuit to compensate for an increase in fluid volume in the fluid circuit at a controlled flowrate due to removal of the ultrafiltrate from the patient; and

removing an amount of solutes from the therapy fluid as the therapy fluid is continuously circulated.

56. (previously presented) The method of Claim 55 wherein about 1.5 liters or less of ultrafiltrate is added to the fluid circuit during treatment.

57. (previously presented) The method of Claim 55 wherein a sorbent material selected from the group consisting of carbon, activated charcoal and combinations thereof is used to non-selectively remove the solutes from the dialysate.

58. (previously presented) The method of Claim 55 wherein at least a portion of urea is selectively removed from the therapy fluid without use of an enzyme including urease.

59. (previously presented) The method of Claim 55 wherein a solution capable of enhancing diffusive properties of the dialysate is added to the fluid circuit during treatment.

60. (previously presented) The method of Claim 55 wherein the solution comprises an osmotic agent solution selected from the group consisting of a 2.5% dextrose-based solution, a 3.5% dextrose-based solution, a 4.25% dextrose-based solution, a greater than 4.25% dextrose-based solution and combinations thereof.

Claims 61 to 65 (cancelled)